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Non Invasive Imaging (Echocardiography, Nuclear, PET, MR and CT)

GENDER DIFFERENCES IN MYOCARDIAL BLOOD FLOW IN CARDIAC PET/CT WITH REGADENOSON

Poster Contributions
Poster Hall B1
Sunday, March 15, 2015, 3:45 p.m.-4:30 p.m.

Session Title: Non Invasive Imaging: CT/Multimodality, Angiography, and Non-CT Angiography
Abstract Category: 16. Non Invasive Imaging: CT/Multimodality, Angiography, and Non-CT Angiography
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Background: Little is known regarding myocardial blood flow (MBF) values in subjects undergoing PET/CT stress testing using regadenoson. Specifically, it is unknown what differences in MBF, if any, exist between genders. We analyzed patients without cardiac risk factors with normal perfusion images to evaluate differences in rest and stress MBF as well as coronary flow reserve (CFR) (stress flow/rest flow) values based upon gender.

Methods: Patients (n=241) who underwent cardiac PET/CT stress testing between March 2013 and July 2014 were selected from the Intermountain Healthcare's PET/CT database. Subjects with abnormal perfusion scans, ejection fractions <40% via PET, and cardiac risk factors were excluded.

Results: Table: Global rest and stress myocardial blood flow in mL/min/g and coronary flow reserve on Cardiac PET/CT in normal subjects by gender.

	Healthy Males (Age 59.64±13.90, N=111)		Healthy Females (Age 61.79±13.31, N=130)		Males vs. Females Difference	
	Pseudomedian	95% CI	Pseudomedian	95% CI	Pseudomedian	95% CI
Rest (mL/min/g)	0.86*	(0.80,0.93)	1.18*	(1.10,1.26)	-0.26*	(-0.35,-0.18)
Stress (mL/min/g)	2.49**	(2.34,2.66)	2.66*	(2.54,2.79)	-0.17	(-0.37,0.02)
Reserve	2.91*	(2.74,3.09)	2.38*	(2.235,2.50)	0.52*	(0.31,0.74)

*Indicates p-value <0.0001
**Indicates p-value <0.0001 and N=110

Conclusion: Global MBF at rest is higher in normal female subjects resulting in a lower CFR in women, as stress flows were similar regardless of gender. This pattern may have key implications in the interpretation of normal vs. abnormal CFR in women. Furthermore, the overall stress and reserve MBF values with regadenoson are notably lower than those previously described using adenosine/dipyridamole, potentially reflecting a lesser degree of vasodilation and more limited augmentation of flow with this widely used pharmacological stress agent.